

## **MEETING MINUTES SUMMARY**

**United States Department of Agriculture  
Agricultural Air Quality Task Force Meeting  
Piccadilly Inn Airport Hotel  
Fresno, California  
June 17-19, 1997**

**Day 1  
Tuesday, June 17, 1997**

### ***Introduction***

**Gary Margheim** (Natural Resource Conservation Service, U.S. Department of Agriculture) convened the meeting and reviewed the agenda.

### ***Opening Remarks/Welcome***

**Manuel Cunha** (President, Nisei Farmers League) welcomed the Task Force to California and the San Joaquin Valley, noting that the weather had been nicer the previous week. He said that the hotel was at their convenience. On Thursday the Task Force would determine the location for its next meeting. Cunha announced that the tour was scheduled for the next day. It would start at 6:30 AM with breakfast. At 7:30 the bus would leave and return around 9:00 PM. Fresno weather would make the trip warm. Cunha urged attendees to take off their ties and feel relaxed and comfortable.

Margheim said that introductions were in order, especially from the new members. He asked each member to please mention something about his or her background and biases.

### ***Agricultural Air Quality Task Force (AAQTF) Members***

#### **Phillip Wakelyn**

Manager of Environmental Health and Safety  
National Cotton Council  
Washington, DC

#### **Dennis Tristao**

Environmental Affairs Officer for the J.G. Boswell Company  
Corcoran, California

Tristao introduced his son, Craig Tristao, who is affiliated with the Corcoran High School Future Farmers of America.

**John Sweeten**

Professor and Resident Director of the Texas Agricultural Experiment Station  
Texas A&M University Research and Extension Center  
Amarillo, Texas

**James K. Trotter**

Farmer Representing the National Corn Growers Association  
Macomb, Illinois

**Michael Veenhuizen**

Owner of Livestock Engineering Solutions  
Greenwood, Indiana

**J. Read Smith**

National Association of Conservation Districts  
Farmer and Rancher  
St. John, Washington

Smith said that air quality issues had been a focus of some of his work. He thought that agriculture should be held accountable, and said he had provided tools to make agriculture accountable.

**Keith Saxton**

Professor  
Washington State University  
Pullman, Washington

Saxton said his particular interest was wind erosion.

**Joseph Miller**

Supervisory Plant Physiologist and Research Leader  
Agricultural Research Service  
U.S. Department of Agriculture  
Raleigh, NC

Miller said that he had been involved in air quality research for thirty years. His doctoral work involved fluoride, and he had done work on SO<sub>2</sub> and tropospheric ozone. Miller said that solid research needed to be done in this area.

**Phyllis Breeze**

Planning and Grants Specialist  
Colorado Department of Public Health  
Denver, Colorado

**Thomas Ferguson**

Director of Employee Health Services and Professor in the School of Medicine  
University of California-Davis  
Davis, California

**Gary Margheim**

Acting Deputy Chief of Science and Technology  
Natural Resource Conservation Service  
U.S. Department of Agriculture  
Washington, DC

**Felicia Marcus**

U.S. Environmental Protection Agency Region 9  
San Francisco, California

Marcus said her bias was toward developing working plans and organizing efforts. She also expressed a bias against "smart people who think they know a lot and confuse the issues."

**Jerold Masters**

Executive Vice President of the Arkansas Pork Producers Association  
Dover, Arkansas

**Robert Quinn**

Professor of Geography and Certified Consulting Meteorologist (CCM)  
Eastern Washington University  
Cheney, Washington

**Emmett Barker**

President of the Equipment Manufacturers Institute  
Chicago, Illinois

**Victor Chavez**

Physician, Farmer, and Rancher  
Lubbock, Texas

**Manuel Cunha**

President of the Nisei Farmers League  
Fresno, California

Cunha identified himself as a citrus grower in Fresno.

**Clinton Reeder**

Farmer and Economic Consultant  
Pendleton, Oregon

Reeder introduced himself as a grain and animal farmer. He was raised on a century farm. Reeder was once an agriculture economist with a full-time position at Purdue. He stated his concerns about conservation issues. Reeder said that they could create bigger problems by not understanding the issues, giving an example of pH on his farm. He said that the Task Force could ensure the productivity of its efforts by the proper focus.

**Calvin Parnell**

Professor of Agricultural Engineering  
Texas A&M University  
College Station, Texas

Parnell introduced himself as a Senior Scientist and Engineer in the Department of Agricultural Engineering at Texas A & M University.

**William Hambleton**

Agriculture Advisor to the San Joaquin Valley Unified Air Pollution Control District  
Fresno, California

**George Bluhm**

Natural Resource Conservation Service  
University of California-Davis

***Task Force Support***

**Jeff Graham**

Natural Resources Conservation Service  
U.S. Department of Agriculture

**Jessica Preciado**

Natural Resources Conservation Service  
U.S. Department of Agriculture

Margheim asked other attendees to introduce themselves.

***Public Attendees Who Registered at the Meeting (includes Tuesday and Thursday Attendees)***

**Dick Hall**

No affiliation given

**Andrea Domanik**

Arizona Department of Air Quality

**Robin Dunkins**

U.S. Environmental Protection Agency

**Ed Umbach**

Natural Resource Conservation Service  
U.S. Department of Agriculture

**Jeff Schmidt**

Natural Resource Conservation Service  
U.S. Department of Agriculture

**Marcia Kreith**

Agricultural Issues Center  
University of California-Davis

**Hyunok Lee**

Department of Agriculture and Resource Economics  
University of California-Davis

**Kate Bearden**

San Joaquin Valley Unified Air Pollution Control District

**Hershel Read**

Natural Resource Conservation Service  
U.S. Department of Agriculture

**Peter Oppenheimer**

Bryan Care LLP

Washington, DC

**Robert Flocchini**

Crocker Laboratory  
University of California-Davis

**Maria Lima**

No affiliation given

**Adam J. Sharp**

No affiliation given

**Michael Laybourn**

South Coast Air Quality Management District

**Sylvia Oey**

California Air Resources Board

**Rodney Langston**

San Joaquin Valley Air Pollution Control District

**David Grantz**

Kearney Agriculture Center  
University of California-Davis

**Debbie Jordan**

U.S. Environmental Protection Agency Region 9

**John Ungvarsky**

U.S. Environmental Protection Agency Region 9

**Patrick Gaffney**

California Air Resources Board

**John Beyer**

Natural Resource Conservation Service  
U.S. Department of Agriculture

**Earle Frank**

No affiliation given

**Roger Ison**

California Cotton Growers Association

**Dale Shimp**

California Air Resource Board

**Bob Fry**

Natural Resource Conservation Service

U.S. Department of Agriculture

**Craig Tristao**

Corcoran High School Future Farmers of America

**Greg Johnson**

Natural Resource Conservation Service

U.S. Department of Agriculture

**Karri Hammerstrom**

San Joaquin Valley Unified Air Pollution Control District

**Harold Harris**

No affiliation given

**Gary H. Baise**

Baise and Miller, P.C.

Counsel to the Equipment Manufacturers Institute

**Kenneth Crumpton**

KJEO

**Tom Trout**

Agricultural Research Service

U.S. Department of Agriculture

**Susan Walker**

San Joaquin Valley Unified Air Pollution Control District

Margheim said he would turn over the meeting to Felicia Marcus as EPA's representative.

Marcus welcomed attendees to California. She said she was hopeful about the Task Force and expressed thanks for the minutes from the last meeting, which she said made

her feel as though she was there. Marcus said that a lack of knowledge usually resulted in conflicts. Everything had hit agriculture at the same time with new standards for programs in air and other media. She said the fact that this Task Force advised the USDA was good and thanked them for also advising EPA. Marcus urged Task Force members to call on her to be their advocate. She said that she could not be present all three days. Marcus said that she respected Sally Shaver of EPA who was involved and could provide the meeting with continuity, although Marcus also wanted to remain a part of the process. She then introduced other EPA Region 9 personnel who were in attendance, Debbie Jordan and John Ungvasky, and noted that they all had a lot to learn.

Margheim said he was sorry that Marcus could not stay. He then recognized Hershel Read.

Read welcomed attendees to California, which he said was a big State with more than 250 crops, noting that agriculture in California affected the whole country. Read said that private lands were important to California and the nation, and that air quality was important in cities and on farmlands. Read said that there were good people in California working with agriculture, but they needed better science and better measurements. He noted that several people present had worked on the Memorandum of Understanding (MOU), an agreement that called for them to work together to reduce the amount of pollution from farmlands. Read gave an example of the rice roller as a technological advance that already had been made. Air quality was one of their six concerns. He said they wanted to work together to improve science and noted that more needed to be done.

Margheim said that the primary function of the Task Force was to advise the Secretary of Agriculture on research needs. Task Force members needed to discuss how they would present information to the Secretary. He wanted to add this consideration to the agenda.

Cunha said that the question of what the appropriate funding mechanisms and resources were also should be added.

Margheim wanted to stress that the Task Force strongly valued input from the public. Before noon they would accept three-minute comments from the public, which would be a time to share their feelings with Task Force members. Margheim observed that it was their second meeting and that the Task Force was taking the high ground. He said he was extremely pleased with the call for sound science saying that the credibility of the Task Force had been kept high by looking at science: "Think straight and plant on the contour." Their high level of enthusiasm had been taken to the congressional hearings.



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***Presentation by Dale Shimp, California Air Resource Board, on Improving Agricultural PM-10 Emissions Estimates in California***

Shimp said that the process California Air Resource Board (CARB) followed was the key thing to take away from his talk. The tools would show them what they could get out of this process.

Shimp said that inventoried sources of agricultural emissions included dust from farming operations and windblown dust from farmland. Farming operations included land preparation, growing season operations, and harvesting. The key questions that had to be asked in order to improve agricultural PM-10 emission estimates were what, how much, when, and where. What and how much had been asked but when and where might be very important as well. Work in the San Joaquin Valley required an understanding of farming practices, an appreciation for California-specific data, and knowledge of seasonal and regional variations in climate, soil type, etc. Valley growers had helped CARB determine agricultural practices and crop calendars. Irrigation and crop canopy coverage also were important. Government and universities had recent data to contribute. Tours of activities had helped CARB get a first-hand look at farming practices.

Shimp said that their data were most different from university data in terms of when practices occurred. They worked with farm industry representatives. Dennis Tristao and Manuel Cunha helped Shimp meet with those representatives to describe actual farming practices. Growers of particular crops also helped during the meetings. Crop calendars were formulated and sent back to growers for further input. Twenty crop species covered 90 percent of the crops, and the remaining 10 percent were set to similar crops. CARB then grouped them and got more feedback from growers about the appropriateness of the groupings.

Shimp noted that most emissions in the San Joaquin Valley occurred between October and March, which was different from other parts of the country. He noted that he should change the title of his view graph from "Updated Seasonal Emissions" to "Updated Seasonal Operating Profile" because it was really the operating profile, not emissions, that he was talking about. Farmers wanted to get in a second crop or wanted to do a lot in the fall before the winter rain started.

Shimp used estimation methods from EPA found in AP-42. These methods were refined to take into account California soil silt-content data. Shimp noted that CARB also had developed new factors that now accounted for both irrigation practices and crop canopy. Staff at the University of California-Davis helped with estimating

emissions from cotton harvesting, stalk shredding, and almond/walnut harvesting. Emissions estimates were not included if there were no emission factors.

Barker asked how windblown dust factors had changed.

Shimp said that climate factors, canopy, and irrigation factors were added to the formula. He offered to mail Barker a copy of the methods.

Barker asked where they were measuring emissions, in the field or five miles away.

Shimp said they were looking at what was in the air at the emission point.

Cunha said that agricultural emissions were a major impact when using AP-42 factors, but this dropped to a small effect when the corrections were applied. This method also could be used by other States.

Shimp said that EPA staff in Research Triangle Park was reviewing their calculations.

Saxton asked what the time frame was for the estimates shown in Shimp's figure.

Shimp replied that it was month-to-month. He continued by offering a summary of improvements, which included considering agricultural operation emissions and windblown agricultural dust. As for PM-10 emission changes, he noted that harvesting was now listed, though previously it was not.

Barker asked if the number represented the average for the year.

Shimp said yes. Agricultural tilling emissions had dropped 40 percent. A moist soil adjustment factor made the difference. Shimp said that the biggest effect on windblown dust came from the crop canopy, noting that windblown dust emissions dropped when plants grew. In the San Joaquin Valley, PM-10 was lowest in January because of rain. The major categories at that time were combustion sources such as fireplaces; everything else was small. In April, fugitive windblown dust was the biggest band. The dust emissions became important, but there were no violations that time of year. In July, PM-10 emissions from farming were still minor. In November, the big peak in PM-10 from farming operations was reached.

Saxton asked what units were used, whether it was tons per year.

Shimp replied that it was either tons per day or tons per month.

Parnell asked whether the AP-42 factor was correct under these conditions.

Shimp said that it might not be valid, but this factor correlated the best with AP-42 measurements. Every study he had seen listed pounds per acre. The range was from two to six pounds in various studies, and AP-42 came out at four pounds per acre. He had found no results to date proving it wrong.

Sweeten asked whether these numbers applied to a specific time period.

Shimp said they were for each tilling pass.

Sweeten asked to which crop they applied.

Shimp said it was a summary.

Barker asked whether Shimp would suggest a correction to AP-42 as a recommendation of the Task Force.

Tristao said that any estimates needed to be region-specific.

Shimp said he would agree, but they needed to cut off the level of detail somewhere.

Trotter asked whether the AP-42 literature covered all types of tilling.

Shimp answered that it was a one-size-fits-all approach.

Cunha asked Flocchini whether these were valid PM-10 estimates.

Flocchini said that AP-42 had been good when it was done. The Task Force had asked for a literature review, which he would present that afternoon. These were PM-10 estimates, but the literature must be reviewed very carefully. Flocchini said he had a question about the past inventory estimates. As more data became available, some numbers would run higher and some lower. They were estimates and would be used until better data arrived. Glen Cass of the California Institute of Technology would be talking more about wood burning in the near future.

Wakelyn asked how these data compared with monitoring results on a seasonal basis.

Shimp said they compared very well with what was being measured on PM-10 filters. They used to show more fugitive dust in their emission estimates than the monitors were reading. Now the fractionalization was closer to the same numbers. GIS technology would allow spatial breakdowns. The month of July showed some

emissions activity in certain areas but not much. Shimp continued by presenting a series of maps.

Shimp said that in August, they did not show harvesting but very few emissions came from agriculture. Almond/walnut harvesting was one of the dustiest operations and was very high in September. Not much else was going on then. In October, the almond/walnut harvest was continuing and other croplands were starting to be tilled. In November, the almond/walnut harvest was done and those levels were gone. New areas showed up based on new land preparation before the winter set in. Shimp noted that GIS was a valuable tool on a month-by-month basis.

Cunha mentioned the statement that 30 pounds were emitted in almond harvesting, asking whether that was PM-10.

Flocchini said yes, he believed so.

Shimp said they realized the emission factors were faulty and could be improved. They also would like to improve harvesting estimates. Wheat estimates would probably be smaller. Ammonia emissions had become an important focus of the future. The GIS approach was appropriate for drawing pictures. Shimp said he would answer questions from the Task Force.

Barker asked when they would stop making modifications and use their numbers for California's SIP.

Shimp said that EPA would set a date. They tried to incorporate each improved estimate up to the SIP submittal date.

Barker said that the new standards required the governor to submit numbers one year after the promulgation date. He wanted to know what data got used and when.

Marcus said that the governor had to submit a list of nonattainment areas and then EPA would spend a year reviewing the classifications. SIPs would be written after that, so the time period was long. SIP revisions were continually based on new emission factors. The time line was longer than one might think.

Barker said the Federal plan must go into effect if the SIP was not completed.

Marcus said that the first goal of EPA was to get SIPs in place.

Shimp said that an attainment/nonattainment determination was based on monitoring, not on emissions. Research was not affected and was not addressed until the final stage of the planning process.

Parnell asked how many monitors were in place in the San Joaquin Valley. He also asked Shimp if they planned to ratio P-2.5 to PM-10.

Shimp said he could not answer those questions.

Oey said she thought there were three monitors in the Valley.

Shaver said that according to the Federal Reference Method (FRM), EPA would make no decisions unless FRM monitors had collected readings. This stretched out the dates. It was possible that some existing monitors would be approved. The "unclassifiable" designation probably would be used until three years of data were in. The time frame would be stretched out because monitors had to be installed. So they were looking at the years 2000/2001 for monitors to be installed, and then three years beyond that for data collection.

Marcus asked whether the ozone schedule would be different.

Shaver said that ozone could be done now since the data already existed.

Parnell asked Shaver whether she saw States using ratio techniques to predict PM-2.5.

Shaver said that EPA did not plan to ask States to use that method.

Tristao asked what CARB had found in working with farmers.

Shimp said it was enjoyable. They accomplished a lot more when everyone felt involved.

Tristao said he wanted to make the point that working together with farmers helped. He also asked where the soil numbers had come from.

Shimp said that NRCS had provided wet soil data, so they tried to develop a correlation between wet and dry. The University of California-Davis correlated the numbers based on measurements taken in the field. The Soil Conservation Service offered some more detailed estimates.

Tristao wanted to stress interagency cooperation and the USDA funds that were instrumental in this effort.

Shimp said they had worked with many other agencies and universities as well.

Manuel Cunha commended CARB's staff on a major turnaround. If the high peak was in November, then farm emissions in California were not like other States. In Monterey and other areas, it was determined by crop demands. The same was true for water demand and supply. Cunha said that they must be aware of these changes. Economics also needed to be considered. Crop trees used to be good for thirty years but now it was only ten years because of changing demands. They needed to be sensitive to this factor and allow emissions to change.

Wakelyn asked how that played into a SIP.

Cunha said that they needed to talk about this issue with Shaver and Marcus in the next few days.

Shimp said that CARB used 1993 county-level numbers. They could update the estimates each year.

Breeze asked whether feed lots were included.

Shimp said they were not included.

Gaffney said that addressing feed lots was his summer project this year.

Cunha said the University of California-Davis was looking at the numbers again and data were being collected.

Barker asked whether an average banking and trading program was coming into play.

Wakelyn said that the 1996 farm bill was affecting farming practices even more each year.

Cunha said that Federal programs would change how the game was played.

Wakelyn said that in Mississippi, the situation was changing based on crops grown.

Barker explained that average banking and trading could work in farmlands. He wanted to ask Shaver how such a system might work in California.

Marcus said she was not aware of this type of trading and that trading programs required reliable histories.

Shaver said that accounting information was not available, and they needed to determine what was useful.

Wakelyn asked whether the FRM measured different samplers. He wanted to know whether they could get information about particle size cutoffs.

Dunkins said EPA could get a summary about FRM to the Task Force.

Wakelyn said a sampler measured a cutoff, but questioned how wind affected it. He said he would like this information because there were many factors involved.

Dunkins said EPA still was measuring the strength of the cutoff at 2.5 in the samplers.

Wakelyn asked whether the FRM would be promulgated before all these factors were known.

Dunkins said that they needed a new FRM. Also some monitors had been out there ten years or so.

Sweeten said that despite the year-to-year variations, this information provided a basis for models. He recommended that the Task Force continue beyond this point. He thought they could do more now that models had been developed.

Parnell said that Texas was researching emission factors from 280 to 10. It was a difficult process to get numbers changed by EPA. It would be nice to move forward. Marcus said they must get past traditional "is so, is not" dialogue to move forward. This process would help.

Sweeten said it appeared to be a revolving door with the same contractor reviewing the proposed changes to AP-42 who did the original work. This situation was a difficult problem.

Wakelyn said that Midwest Research Institute was not receptive to new values. He thought Dallas Safert had been receptive at EPA. In other areas this was a difficulty.

Parnell said they had seen new data presented and were excited that the University of California-Davis might find some numbers.

Hambleton referred to the mention of economics. He noted that they would have more dairies and cows in the Valley. Somewhere early in the game they must consider what

economic effects this change would have. They needed to recognize the farmer's input on economics.

Margheim moved to cut off the discussion. He said they would discuss economics with Joe Glauber at 1:00, and could move now into Wakelyn's report.

### ***Discussion of the Letter to the Secretary of Agriculture***

Wakelyn said that Joe Glauber had had many meetings with Cabinet officials. He had been asked to review the technical comments of the Task Force that they were tasked to submit to the Secretary of Agriculture. They polled the whole group, except Sally Shaver who abstained, to set up a subcommittee of seven members who would write the letter to the Secretary. They met with Joe Glauber and prepared this letter. Paul Johnson, Chief of NRCS, added his cover letter. The USDA had put together its comments, but they did not include this as part of the May 12 submission. Wakelyn said they felt they had addressed the comments of the Advisory Committee. They did not address health data but rather the impacts of the proposed standards on agriculture. USDA was gathering information and it had made a drastic difference. The subcommittee felt it was necessary for USDA and EPA to have a MOU. They felt that the best science available should be used. The focus of the PM and ozone standards was not agriculture, but the last meeting showed 34.5 percent of PM was from agriculture.

Margheim said that the subcommittee spent the wee hours of the morning working on the letter, which had been a bestseller in terms of requests.

Barker asked what the proper protocol was for the Task Force to report to EPA. Their first task was to report to the Secretary of Agriculture.

Margheim said it was important to go to the Secretary first.

Barker said they needed to discuss the process.

Margheim agreed that the Task Force must address this question. He announced that the Task Force was ready to accept comments from the public.

Franks spoke, saying he was there for Trent Proctor. They represented three million acres of wilderness. He noted that ozone affected tree growth, and that burning affected everyone. Franks said they were working out a MOU with the San Joaquin Valley Air Pollution Control District. They were interested in the process.

Reeder asked him to clarify how visibility affected their process.



Franks said one could not see "forever" when visibility was affected. This factor played strongly into views at national scenic vistas.

Breeze asked Franks if he meant prescribed fire when he said burning.

Franks said yes.

Margheim said that if there were no other comments they would break for lunch and be back promptly at 1:00 for Joe Glauber's comments.

\*\*\*\*\*LUNCH\*\*\*\*\*

***Telephone Presentation by Joe Glauber from the Secretary of Agriculture's Office***

Margheim opened by telling Glauber that Task Force members would like an update about what the Secretary had done with their recommendations.

Glauber said early discussions had commenced after the first meeting. They were already preparing comments when the White House asked for comments. The White House wanted cabinet-level agencies to be involved, and there had been a lot of meetings. Formal comments were not filed. Technical comments were discussed with the Task Force. Glauber said that they did file the letter from the Task Force. They had had weekly meetings with the White House and all parties that had been affected by the rulemaking process. The White House was trying to arrive at consensus. There was little time left.

Margheim solicited questions for Glauber from the Task Force.

Barker said the Secretary had made a statement that this was not a great issue for agriculture. Barker wanted to know what the basis was for this statement.

Glauber said he was not aware of this statement. It might have been after the letter from Carol Browner. He said it was clear that it was a positive step that EPA was working with agriculture.

Cunha asked whether Glauber still felt that USDA believed the standard would reflect the letter from Browner.

Glauber said that the letter referred more to implementation issues than to whether the standard would be promulgated. The Secretary supported the intent of the proposed NAAQS, but the letter addressed implementation.

Margheim asked Glauber to share information about briefings with Congress.

Glauber said that Tom Pace of EPA in Research Triangle Park had gone to congressional staff the previous day. His briefing addressed the staff with charts that showed soil to be a minor constituent of PM-2.5 based on IMPROVE data. Pace apologized that the 30 percent number ever was used. The San Joaquin Valley numbers now showed 7 percent. EPA wanted to work with the agricultural community and alluded to the MOU. Many congressional staff persons knew little about air quality, so much of the information was very basic.

Margheim asked whether the Task Force had any more questions for Glauber, then thanked him for staying in touch.

Glauber said that the Task Force could contact him at any time.

### ***Update on Subcommittee Hearing Effort***

Saxton said the House hearing was called by the Forestry, Resource Conservation, and Research Subcommittee, chaired by Larry Combest of Lubbock, Texas. The stated purpose of the hearing was to describe the activities and future of the Agricultural Air Quality Task Force. They would evaluate what the Task Force was doing and whether it was active as proposed and required by the 1996 farm bill. There was concern expressed by Representatives about air quality and agricultural impacts. The partnership between public and private entities was stressed. There were lots of questions and answers during the hearing. The NAAQS was fairly new then, and they did not have any answers about how agriculture would be affected. One Representative asked what the new standards were based on. Saxton said they provided the Subcommittee with EPA documents and copies of articles from a recent Air and Waste Management Association journal. If there was something more to read, he said he would appreciate knowing about it. Staff persons asked more pointed questions. This Subcommittee was not part of the Appropriations Committee, but one member was on both. There was a lot of enthusiasm for the Task Force. They liked the efforts and the papers produced.

Parnell noted that Wayne Coates, Robert Flocchini, Roger Ison, and he made up the group. He was charged with telling the Subcommittee whether agriculture would be affected. He told the Subcommittee that he was very concerned. There were no control

technologies for PM-2.5 in his opinion. Ambient levels would not be changed even if controls were added. They were concerned with mass per actual volume instead of mass per standard volume. Economic impacts would affect agriculture. If EPA mandated additional controls, it would cost more. Parnell said that the cost savings of \$1 billion dollars was false. He told them that the emission factors in AP-42 were false and gave several examples. His last point was that they were going at the new NAAQS too quickly without enough science. Civil and environmental engineers did not understand the costs to agriculture; more agricultural engineers should be involved in the process.

Veenhuizen asked Parnell what perception he had gotten from the Subcommittee.

Parnell said that Subcommittee members were concerned about getting more information.

Barker said that during the process, they discovered that Congress was completely unaware of agriculture's issues. Members of Congress did not understand the implications of the NAAQS for agriculture. Barker felt embarrassed that Congress did not know more about the agricultural impact of the proposed standards.

Sweeten asked whether there were enough monitors out there to let the industry know where it stood.

Saxton said that the question of monitors kept coming up, but the standards were not based on that. Scientific health studies that were based on good science were what EPA had used.

Parnell said that PM-2.5 had not been measured in Texas. In epidemiological studies, ratios were used for some cities instead of field measurements. Parnell said that PM-2.5/PM-10 ratios are not valid. The \$1.6 million dollars for monitors would be spent in Texas, but he believed the money could be better spent. There were some questions about scientific validity. He supported the system they had, but said that moving too quickly would cause the public to come back 10 years from now. They needed more information.

Wakelyn said he had asked a question earlier about PM-2.5 monitors. At least 50 percent measured was above PM-2.5. He emphasized the need for accurate measurements and said he was still ignoring questions of speciation. They needed valid measurements to correlate them to health effects.

Parnell said that as an engineer, he was concerned with controls. A cyclone would not control PM-2.5, so he questioned how he would control it. He did not know of a technology that existed for controlling the small particles.

Margheim asked Shaver whether she wanted to address Wakelyn's comments.

Shaver said not beyond what she had said in the morning. She reiterated that she would get information to Wakelyn.

Saxton noted that George Bluhm and John McClelland also had participated in the hearing. They tried to show that a unified effort was underway. They needed some wiggle room in the new standards. Fifty-one Representatives sent a letter to Carol Browner summarizing their concerns about agricultural and air quality issues so it did make some impact. Saxton thought that they got some leverage out of the hearing.

Marcus said that the process of establishing agricultural emission factors was a very long one. When States were submitting SIPs, it would be useful. Environmental groups were appalled when they looked at the long time line for implementing the new standards. EPA was looking at real world decisions and that type of time line.

Margheim said it was difficult to get a Representative's attention. He did believe that they would see a lot more interest in the future. They were recognized as air quality experts. Margheim then turned floor over to Shaver.

### ***Discussion of NAAQS Promulgation***

Shaver said that the promulgation package was still under discussion. July 18 would be the publication date and that was the schedule. It would be in the Federal Register on July 18. Shaver noted that the FACA Subcommittee met in June and was interested in national, regional, and local measures. Local measures were previously discussed, but there was now a recognition that regional and national measures also were necessary. Planning was still underway. They were still working on guidance to the States. Shaver noted that OTAG was meeting later that week and would be reaching conclusions and making a statement by the end of the week.

Shaver noted that in April, they talked about white papers and guidance, which the FACA Subcommittee did not support. She said they would develop a two-page summary. FACA would be trying to develop its own white paper after the standard was promulgated. Shaver noted that Administrator Browner sent a letter to Secretary Glickman about implementation. Browner did want to work with agriculture and would not target them. This letter was a credit to the Task Force's efforts. Shaver said that was all she had except some pie charts.

Margheim asked whether they should do the pie charts.

Wakelyn asked whether the pie charts were from the technical paper Shaver had given previously.

Barker questioned whether Browner could keep a State from including agriculture in its SIP.

Shaver said that EPA offered a lot of guidance to the States, but it was not enforceable. The EPA review process was another way they got input. They thought agricultural reduction programs should be included.

Marcus said that looking at transportation and combustion sources had been and would be important. EPA could not control the States but did influence them.

Wakelyn said that when agricultural was a major industry in an area, they were concerned.

Cunha said that they must make sure the Task Force moved forward. They needed to get sufficient data before regulations were imposed. Their advancement of science was important. He noted that EPA had stepped in during the problems in Imperial Valley when the District went too far.

Shaver said that direct emissions and indirect formation must be considered as well. Secondary emissions were two-thirds of it.

Wakelyn asked whether that meant primary emissions were actually one-third of emissions.

Shaver said yes, a case-by-case basis was the way they had to look at things. The charts from the last two congressional hearings showed these. Washington, DC, Phoenix, and the San Joaquin Valley were shown in the new PM-2.5 pie charts. The San Joaquin Valley had only 7 percent appearing as soil. Shaver explained the percentages, compared the PM-10 and PM-2.5 pie charts, and showed their differences.

Cunha asked where other land sources were. He noted that public lands were most of the lands in California and asked where they were in the pie charts.

Shaver said that EPA had some of that data, but they were not included in the charts.

Cunha said the charts never addressed dust in other public areas. They also did not have transport addressed here. The Task Force needed to see more than just agriculture as owning property.

Sweeten said that Cunha made a valuable point. He noted that ammonia must react with NO<sub>x</sub> and SO<sub>x</sub> to form PM-2.5, and that ammonia could not be looked at independently.

Shaver said EPA did not yet have a good feel for that.

Reeder asked whether they were looking at rural data or urban data.

Shaver said she was not sure how it was broken down to other lands and asked Robin Dunkins.

Dunkins noted that sulfates and nitrates were a big part of PM-2.5 and PM-10 in Phoenix and Washington, DC. The IMPROVE network showed a limited breakdown. National estimates created a lot of confusion and anxiety, so EPA now looked at individual sites.

Shaver showed the implementation date time line to explain how long it would be before SIPs would be in place.

Wakelyn asked whether Task Force members could get copies of the time line.

Sweeten noted that the Great Plains showed a void in the IMPROVE network and asked whether there was a plan to change this situation.

Shaver said yes, the IMPROVE network currently included only Class I areas.

Sweeten noted that IMPROVE tended to underrepresent the farm States.

Barker asked what Class I areas were.

Shaver said that Class I areas were national park areas. They would be addressed in regional haze rules, which would be used instead of secondary particle standards. Sweeten suggested that there might be other institutions that could participate. He mentioned in particular the Department of Interior and the USDA's Agricultural Research Service and experiment stations at land grant universities that have research farms and ranches in agricultural production regions through the United States.

Reeder asked whether haze was the biggest part of IMPROVE.

Shaver said yes, but they were talking about developing a new network that would use a new system with the existing IMPROVE network.

Reeder noted that haze reduction was a whole different issue.

Flocchini said that the IMPROVE network allowed 14 years of data to be analyzed and was based on the 1977 amendments to the Clean Air Act. It was set up because PM-2.5 degraded visibility, especially sulfates. They moved to collect PM-2.5 data with IMPROVE network methods. Regional haze dealt with transport issues. Flocchini said they always talked about local sources before, but now they were looking at transport issues as well. Research had shown that there was transport from the Sahara Desert into the central part of the United States.

Marcus said she was sorry she would miss tomorrow. She stated that she would work with Sally Shaver and Mary Nichols would be involved as well. She was looking forward to the next few years on this issue.

\*\*\*\*\***BREAK**\*\*\*\*\*

### ***Presentation on Health Effects***

Margheim said that two members of the Task Force would address health effects.

Ferguson said that University of California-Davis gave him his background information. Ferguson provided an overview of health effects starting with airway anatomies. The upper airway humidified and filtered air. Particles larger than 10  $\mu\text{m}$  were unlikely to penetrate the lungs. Particles in the one to two  $\mu\text{m}$  range were likely to

get down to the alveoli. These particles affected gas exchange and could create immune responses. Ferguson explained obstructive diseases such as asthma that were caused by upper airway constriction and chronic obstructive pulmonary diseases like chronic bronchitis.

Ferguson said that one assessed lung disorders by chest x-ray; pulmonary function testing; airway challenge testing (expose individual to ozone); and forced vital capacity (FVC) where tests measured the time required to exhale FVC. Asthmatics could take a long time to exhale their capacity; this time was known as FEV1. As far as acute lung

function changes were concerned, a measured decline of 1 to 3 percent in FEV1 was real but its overall effect might not be adequately assessed. Few symptoms might be noticed the next day. The American Thoracic Society had shown that the effects might not be long lasting.

Common lung disorders included pneumoconiosis, which was the most common (black lung, asbestosis, silicosis, etc.). It could be measured easily short-term, but the long-term effects could take 20 years to see. Irritant lung reactions could be caused by gases, fumes, and aerosols, which were classified based on how soluble they were. Ferguson noted that some materials might not be labeled with warnings about these properties.

As for asthma, Ferguson said that recently there had been shown a high correlation between roach allergies and asthma. Asthma could be exacerbated by environmental conditions, such as temperature. Some effects of childhood asthma could be traced to early exposure to aggravation. Ferguson also mentioned hypersensitivity pneumonitis and secondary inhalation of spores.

Ferguson said that the scientific studies for revising the air standards appeared to show a low risk initially; it was important to remember that risk was a statistical attribute. Research was fumbling with how important it was. The biological plausibility should be shown. As an example of relative risk, Ferguson cited a study of heavy cigarette smokers in Britain. He explained relative risk and attributable risk. Relative risk above 1 suggested that forms of cancer were related to smoking.

Many studies of the acute effects of air pollution had been done after severe air pollution episodes. Ferguson said it was very difficult to sort through the data when the effects were low or to determine how other factors were involved, such as being near smokers. He noted that there was a question of whether outdoor pollutant concentrations affected a person who stayed inside in air conditioning most of the time. Ferguson said that the chronic effects of air pollution had been demonstrated in some studies and not in others. Industrial processes might affect systems more than soils did. In one contradictory study, the mortality issue was questioned and seemed to be affected by weather.

Ferguson noted that there had been a tremendous increase in asthma. He said that pollution had decreased, but the incidents of mortality had increased. Poorer areas of the city seemed to be worse. As noted above, a recent study showed that youngsters allergic to cockroaches tended to be asthmatic more often.

Ferguson then raised what he called "canary in the mine" considerations. He asked whether they should expect more lung problems in agricultural workers. There was an



increased prevalence in certain occupations, including animal husbandry and grain workers. Studies at the University of California-Davis suggested that restrictive lung diseases might correlate to occupation. Agricultural health centers around the United States could do more studies. There was not a higher rate of lung cancer in farmers, but there were more lip cancers and melanoma, which made sense based on sun exposure.

Ferguson noted that one press release from EPA said 40,000 lives could be saved by the new standards, but it looked like there were other areas of concern. For example, the Center for Disease Control's unintentional injury (accident) statistics showed that young lives were lost in car accidents, drowning, and violence.

Ferguson said there were a number of unanswered questions in the health studies, such as how to spend limited resources on protecting health. There also had been a question about why the "Six Cities" data had not been released, but the data subsequently had been turned over to reviewers.

Chavez then gave his presentation on health issues. As far as childhood asthma was concerned, the prevalence of asthma was pretty high; 4 to 5 percent of the population had it, including approximately 7 percent of children. The medical costs of asthma were more than \$4 billion a year. Its clinical manifestations included acute and insidious attacks. Acute attacks most often were brought on by exposure to irritants such as cold air and noxious fumes, allergens, or simple chemicals. Insidious attacks showed gradual increases in coughing and wheezing and were most commonly precipitated by viral infections.

Chavez said that persons most commonly are genetically predisposed to asthma, but not always. If a patient was exposed to a pollutant, he or she might start to develop symptoms if genetically predisposed. Airway hyper-responsiveness was a physiologic trait. Inflammation was the problem that doctors treated. It most often was caused by tobacco smoke, respiratory illness, or allergens. Exposure at infancy might be one of the biggest factors. Studies had shown that T-cell formation in young children was inhibited by tobacco smoke. Risk factors for mortality included previous life-threatening episodes, depression, low self-esteem, and poor access to medical care. The risk of mortality was double for African-Americans.

Doctors diagnosed asthma based on a patient's history and a physical exam. Chavez said that pulmonary function testing was helpful but it was not necessary for a diagnosis. Treatment must be tailored to an individual patient. Pharmacological therapy is possible. Chavez emphasized that education was important for parents and children

***Discussion of Robert Flocchini's Work***

Margheim said that the Task Force needed to go directly into Flocchini's talk because of time restraints.

Flocchini asked the Task Force to turn to the minutes from the last meeting, which said that Sweeten had stated that Flocchini had not proven anything. It should read that Flocchini had not published.

Sweeten did not think he had made that statement. He did not remember what he had said, but the statement was "kind of off the wall." He wanted to modify the statement or strike it. Sweeten said that he was trying to say that there were data not yet at the publication stage that were showing a 1:1 relationship between PM-2.5 and ammonia in its role as a precursor for PM-2.5.

Saxton referred to the minutes from Page 27, the fifth line from the bottom, noting that the word "not" was left out of his statement.

Flocchini asked whether they were talking about aerodynamic or physical size when they talked about health effects. PM was different from any other pollutant. The same gravimetric mass might be something completely different from one day to the next because its composition changed daily.

Wakelyn asked Flocchini to go into more detail about physical versus aerodynamic size.

Flocchini said that high-temperature, high-pressure processes yielded round particles. Aerodynamic size affected how they behaved in the atmosphere.

Wakelyn said that the aspect ratio showed that long particles and round ones behaved differently.

Flocchini said that a sphere was always the same, but non-spherical particles depended on which way one turned them. PM was different from ozone. It was not just mass, it was also size. Flocchini noted that he had just handed out information from their literature on emission factors. He said that he hoped to collaborate and produce a group review paper in the future. This review paper was in progress.

Flocchini said that using silt content in AP-42 was not a good method. They were trying to publish their findings and would like to present and discuss them more at the

next meeting. The IMPROVE network cost \$1.5 million and was paid for by the Department of Interior, Forest Service, and EPA. Equipment costs were \$15,000 to \$18,000 for each station. IMPROVE was established for the visibility standard. Research was being done by three groups and they were trying to work together. That was why they arrived at the same conclusions. They needed to keep collaborating in the future. Flocchini said he would leave some time for questions.

Cunha said that they had recommended in March that the University of California-Davis put together all of the information. He thought it would provide a good understanding of all of the science. Cunha thanked Flocchini for his efforts.

Margheim asked whether there were any questions for Flocchini.

Reeder asked whether testing technology would reach its limits in the next five years.

Flocchini said that it would accelerate in the near future, not drop back. Tomorrow on the field trip they would see some sampling going on. There was not as much sampling in the spring when violations were not as big a problem.

Reeder asked if that meant they could expect better quality data.

Flocchini said yes, the credibility would rise and they would concentrate on only reviewing data with error bars.

Barker said he would appreciate Shaver talking about the haze issue and the medical correlation.

Shaver said she was reluctant to revisit issues of health effects during this meeting. She said she would comment on cities and health data. EPA did look at other pollutants in these areas as well, and the causes and effects were still related to PM. In terms of relative risk, EPA was not allowed to look at that, and was not allowed to consider accidents, etc., when looking at standards. Another point she wanted to make was that EPA had not listed pollution as a cause of asthma, but as an aggravator of asthma. In terms of regional haze, the Grand Canyon Visibility Transport Commission (GCVTC) concluded its study last year. The report required 18 months to set a standard after the study was published. The regional haze rule was required. It would be addressing reasonable further progress and no degradation of current air quality. EPA was looking for an improvement over a 10-year period. States would have to establish a baseline, which would probably include the role of natural fire and address sources that were grandfathered under the old rules. Shaver said that was a quick overview of the haze issue.

Margheim asked whether it was a proposed rule.

Shaver said yes.

Margheim thanked Shaver and said he really appreciated the information. He then said he did not want to overlook the public and asked whether anyone had a burning issue that they would like to come forward and address for a minute or two. Margheim said that Barker had passed him a note that some of them might want to continue this conversation away from the meeting room from 5:15 to 6:00.

Cunha announced that there was a 6:30 AM breakfast tomorrow and the bus would leave at 7:30. He gave a description of the agricultural tour. Cunha noted that when they tried to regulate, it helped to think about the industry that was being regulated.

Margheim said that the Task Force must have an action list. It was important to set up a research agenda and an action list. This would help the Secretary and Administrator Browner address agriculture's air quality issues. The Task Force had started it, but Margheim thought it was important that they continue a very proactive approach. One thing that came to mind right away was a research agenda, how they could best help the research community set some priorities, etc. He asked Task Force members to identify other activities that they as a Task Force wanted to do or see done that would be important to bring to the Secretary's attention.

Sweeten asked whether they could start the meeting earlier on Thursday.

Margheim said yes, they would start at 8:00 AM.

Cunha thanked Craig Tristao for his interest in and help with the Task Force.

**United States Department of Agriculture  
Agricultural Air Quality Task Force Meeting  
San Joaquin Valley  
Agricultural Tour**

**Day 2  
Wednesday, June 18**

## **MEETING MINUTES SUMMARY**

**United States Department of Agriculture  
Agricultural Air Quality Task Force Meeting  
Piccadilly Inn Airport Hotel  
Fresno, California  
June 17-19, 1997**

**Day 3  
Thursday, June 19**

Margheim opened the meeting at 8:05 AM. He asked those not present on Tuesday to introduce themselves.

Margheim thanked Cunha for the field trip. He said he thought they should spend two to three hours establishing a research agenda. He reminded the Task Force that research oversight was one of the four air quality issues that appeared in the Task Force charter. Margheim said that they know enough now to provide valuable insights to the Secretary.

Cunha said he would be leaving for an air board meeting that morning. He agreed that they needed to keep the four items in mind. Several of them were being called by members of Congress. This Task Force was put together to work with EPA, USDA, and other entities; it was not to be used for a political agenda. They wanted to look forward, not back. Cunha urged Task Force members not to forget that.

Margheim asked whether there were any other general comments after which they would talk about the MOU.

Ferguson said he had been impressed by the research efforts. He thought they should continue this high level of research. They could help EPA analyze the agriculture industry. The Task Force could develop a subcommittee to look at how research money was spent.

Hambleton asked whether they could review the agenda this morning to make sure it was cleaned up after Bluhm and Shaver made their presentation.

Margheim said certainly. First Bluhm and Shaver would discuss the draft MOU.

### ***Discussion of the Memorandum of Understanding***

Bluhm said that they had met in Washington, DC, the last time. A group from the FACA Subcommittee was established to address the issues. Nominations were made from universities and politicians. The White House and Secretary of Agriculture made the final selections. The group would address how air quality affected agriculture and how agriculture affected air quality. Several issues were developed, including a formal relationship between EPA and USDA. Bluhm said Shaver and he had prepared a draft that they would let the Task Force review. He suggested that the Task Force set a date for getting input to them.

Shaver said she would like for the Task Force to look at the words. General counsels from EPA and USDA had reviewed the document briefly, but the EPA counsel had not looked at it in detail. It was designed to outline how this Task Force would interact with EPA. Shaver said that EPA should try to get a NRCS person on staff in the future. For now EPA would like to rely on the expertise provided by this Task Force.

Cunha said their work was well done. He asked whether it was their goal to have the MOU done before the time when Congress started to look at next year's budget.

Wakelyn said they could give feedback, but he did not think the Task Force would reach consensus right away. He asked whether they should go ahead with it today.

Cunha said they needed to do it before September 15.

Wakelyn thought they should make their recommendations by the end of the day.

Cunha suggested they appoint a small subgroup to deal with the lawyers.

Reeder said they could review it that day and should at least adopt a statement in principle by the end of the day.

Quinn said they could do it after 1:00 PM with each person listing issues so that they could draft modifications.

Wakelyn asked whether the MOU involved NRCS as the only part of USDA that would interface with EPA.

Margheim said that the MOU encompassed more agencies than just NRCS.

Parnell asked whether the MOU was really something that was desired by EPA.

Shaver said she could speak for the Office of Air Quality Planning and Standards, the Office of Air and Radiation, and Administrator Browner. They did not want to set up their own division for agriculture issues. They would like to rely on USDA.

Cunha said that Marcus totally supported this effort. She felt, as did Mary Nichols, that it was overdue.

Shaver said that the MOU sent a signal all the way down through EPA to cooperate with the Task Force.

Barker said he saw five bullet points before it got to what he thought was the point of the effort. He asked whether the point was to set up research oversight, or was that being downplayed since it appeared at the end of the MOU.

Bluhm said that in setting up the MOU, they had to lay groundwork first so the agencies would accept it. This was an effort to lay the groundwork.

Margheim said he believed that they could shorten the preface. He said he would like for four Task Force members to form a subgroup to look at the MOU. Others could give input. The four volunteers were Barker, Cunha, Hambleton, and Wakelyn.

Barker said that Shaver and Bluhm first needed to tell them what they included and for what reason.

Shaver said that some of the layout was just statutory, but it was not important and could be cut back. The facts on page 3 should be addressed by the subgroup. The crux started on page 4 and showed responsibilities. If Task Force members saw something missing there, Bluhm and she probably needed to hear back from them.

Saxton asked what a MOU was. One typically stated that each agency would do something and showed how they would work together. He asked whether it was appropriate that they involve the Task Force in this language. Saxton wondered whether the MOU would go away when the Task Force went away.

Bluhm said that a statute set up the Task Force. It would take a statute to get dissolve it.

Saxton asked whether the MOU was between the agencies or the agencies and the Task Force.



Margheim said that they could be a third party, but they would need to establish signatory authority. They could do it, but they did not need to.

Barker noted that suddenly the conversation had moved away from its initial reason. He said he would be disappointed if the Task Force were not made the focal point of this MOU.

Reeder said he thought if they left the agencies as signatories it would work.

Margheim said he agreed.

Parnell said they did not want to be perceived as a little group who got together to vent their frustrations. They should be able to advise the Secretary of Agriculture who would advise EPA. They could make statements and be heard and have an impact. If the MOU was watered down so much that they would not have a voice, he thought they were wasting their time.

Wakelyn said it was felt that the Secretary could use this Task Force and MOU to make sure that the best available science was employed. They did not want to add command and control. They wanted to bring best science into the process. The Task Force was part of USDA. The MOU should set this out.

Sweeten said that the windup was too long and got in the way. MOUs tended to be restrictive, not inclusive. He did not think anything would be lost by deleting most of page 1 to the middle of page 4. It might say things like "and other issues that are brought to light" to include new issues that developed.

Saxton agreed with Sweeten. The purpose of a MOU was usually not to be restrictive.

Sweeten said that if the activities were important and aggressive, they tended to blow whatever was put in place in an unanticipated direction.

Hambleton asked what they saw as a realistic schedule and when they should have something done.

Margheim said he thought the target of July 15 was reasonable.

Hambleton said that some of the other issues should be covered by conference call.

Bluhm said that the Task Force needed one of the scientists on the committee to maintain balance for the FACA process.

Parnell noted that John Sweeten wanted to be on the committee.

Margheim said they would add him.

Barker asked whether this was just looking at agricultural air quality issues.

Ferguson said he thought there were other issues such as water that were affected by air policies.

Shaver said that they already had some other MOUs. To include water in this MOU would slow down the process in EPA.

Barker said that the bronchial talks on Tuesday were good, but neither spoke to the relationship between the proposed NAAQS and health effects. He wondered whether the physicians could add some words to the MOU.

Ferguson said his limited knowledge showed that ozone health effects were much easier to study. An individual pollutant was easier and more likely to be well-studied. Ozone could adsorb onto PM, and then PM would affect health. There were some studies that indicated that PM and those species that adsorbed onto it did have health effects.

Chavez said that the Salt Lake City studies showed a lot of PM. Increased mortality, pulmonary function decrease, and increased school absences were correlated with poor air quality. Ozone aggravated the problem but did not cause the problem. Overall, ozone did not cause disease.

Ferguson said that as he recalled a refinery in the Salt Lake City area operated episodically, which made the study a good one.

Chavez said that a 13-month strike at the refinery helped researchers collect good data.

Ferguson said he believed that PM might be a carrier of other pollutants. Soil-derived particles might carry other pollutants.

Trotter asked whether there was a difference between the effects of organic and inorganic matter on health.

Ferguson said there might not be human studies, but he thought there still needed to be a lot of research done. One of the problems was assessing what was adsorbed onto those small particles.

Saxton said that the smoke issue had to be addressed.

Chavez said that smoke caused lung aggravation. When one had respiratory problems, smoke aggravated them.

Ferguson said that carbonaceous particles were likely to be small. Smoke was likely to produce more biologically important particles than soil.

Barker asked whether they could get copies of the presentations.

Bluhm said yes, presentation copies would be made available to the public, but they could not give out a copy of the draft MOU to the public until there was agreement on the draft within the AAQTF.

\*\*\*\*\***BREAK**\*\*\*\*\*

***Presentation by Joseph Miller on Global Change and Air Pollution: Effects of Atmospheric Composition on Crop Systems***

Miller said he would talk about ozone and its effects on crops as well as unresolved issues. He said he would not talk about other greenhouse gases that day. Miller talked about the sources of tropospheric ozone. He said they were broken down into background and pollutant sources. He also showed the sequence of reactions, explaining that his presentation was very simplified. Miller said that ozone varied each season and over the course of a day. EPA used the term seasonal mean ozone. He presented a seasonal graph showing 12-hour daily means, noting that they were somewhat episodic depending on meteorology.

Reeder asked whether the 12-hour means were based on daylight hours.

Miller said yes. He continued by showing data on 1978 ozone concentrations for 7-hour daily periods with the units in ppb.

Parnell asked whether the current NAAQS was 120 ppb for ozone.

Miller said yes.

Shaver said she was curious why Los Angeles was not red in the map.

Miller said it just happened to be clear that year.

Reeder asked why there was not more recent data.

Miller said he had not had time to put this together. He just wanted to show how high the numbers were.

Wakelyn asked whether ozone was known to be phytotoxic in the yellow regions.

Miller said yes.

Quinn asked Miller to please explain the areas and their sources.

Miller said he could but that was not what he was trying to show. He wanted to show that ozone was not just a city problem. Ozone concentrations were higher in rural areas sometimes because there was not a titration of the ozone by NO<sub>x</sub>.

Wakelyn asked what part was biogenic.

Miller said that in pristine areas, 25 to 35 ppb might be biogenic. It might be higher in Southeast. The levels might have been higher in the past, but there was no way to measure what existed before man.

Wakelyn said that the natural haze in the Smokies might be related to that factor.

Miller said that haze was actually particles, but they were formed from ozone. Miller continued with his slides to show phytotoxic effects of ozone on growth. He showed examples of the effects of ozone on soybean and peanut leaves grown in chambers with ozone. Cotton plants showed reddening of the leaves as chlorophyll was destroyed. Miller also showed examples of snap bean damage in a slide. He said that a major tool used in research was open top chambers, which could be used to provide different concentrations of ozone or other pollutants. Charcoal filters were used to clear the air, which was exhausted out the top.

Miller then showed three slides of soybean plants at the end of the season and explained that there was an acceleration of senescence when the plants were exposed to ozone. He also talked about proportional yield response, saying that for sorghum, field corn, winter wheat, soybeans, peanuts, and cotton, proportional yield dropped as seasonal ozone concentrations increased.

Barker asked whether they had looked at the relationship of ozone to the structure of the leaves.

Miller said that when C4 metabolism occurred instead of C3, it seemed to affect changes more than the structure of the leaves.

Parnell asked Miller how it would appear if he extrapolated these data to the economic impact.

Miller said yield was definitely affected.

Reeder asked whether they were looking at a 40 percent loss in winter wheat crop yield for 120 ppb.

Miller said yes, but they were talking about seasonal averages. Most of the time the average ozone level only came to around 50 ppb. EPA came up with an economic figure that seemed fairly large because it assumed that the level in the standard would be met. If they reduced just 25 percent across the board, the economic change would be significant. It would not be changing equally across the country.

Parnell said they would have to make some broad assumptions. He understood that he would be wrong if he assumed that 50 percent of the crop was lost.

Miller said they should be looking down in the lower range of 40 to 50 ppb.

Quinn said it was crucial to look at natural background levels.

Wakelyn said there were insect, disease, and weather losses in certain years. They did try to calculate those factors into the economics.

Miller said EPA needed to understand how air impacts were affected by other factors. This was a research need. They found that to some extent chamber studies related to the real world.

Parnell said he had been critical of the different numbers on dollars developed by EPA.

Hambleton said the statement was incorrect because of the difference in saving dollars and providing more produce to sell.

Shaver said she felt that Parnell and she had covered this issue at the last meeting.

Miller went on to talk about how other factors affected the interactions. For soybeans, water stress closed leaves and allowed less ozone to get in. On the cotton graph he displayed, he said that the crossing of the curves probably occurred probably because of a change in leaf behavior. Research also had looked at the effects of SO<sub>2</sub> on soybeans. Miller said open top chamber tests had started to address supplemental UV-B radiation and determined that elevated UV-B radiation had very little effect on seed yield in 1990.

Miller continued with a slide showing spotted spider mites that were part of studies on whether ozone affected plant resistance to insects. White clover plants were sampled 15 days after adult mites were placed on their leaves. The egg laying of mites increased under higher ozone concentrations, which also was observed in the field. This hidden type of effect could be a serious concern. The incubation period of the egg was rapid enough to be evaluated here, but Miller noted he was not an entomologist.

Trotter said that in years of drought, he had more problems with mites.

Miller said that this might be true, but they had controlled chambers exposed to the same temperatures. The only variable between the chambers was the ozone concentration. He continued by saying that the mites themselves did not seem to be affected by ozone. The plants as food were more susceptible to the mites when they were exposed to higher ozone levels.

Miller showed a slide on mean monthly concentrations of atmospheric CO<sub>2</sub> at Mauna Loa, Hawaii. Scientists had studied increased CO<sub>2</sub> as it related to increased ozone. Elevated levels of carbon dioxide tended to cause stomata on leaves to close. This allowed less ozone to enter the leaves, thus reducing the phytotoxicity of ozone to plants under circumstances when CO<sub>2</sub> was increased. Soybean studies showed that when ambient levels of carbon dioxide were increased by 1.5, there was a large increase in soybean yield. This increase had been true in five species thus far, including cotton.

Hambleton asked whether there were any differences caused by other gases that were produced by UV-B radiation.

Miller said they were minor constituents and showed no change in measurable levels.

Breeze asked whether these studies ignored climate variability.

Miller said yes, they could not do everything. Their conclusion was that ozone was phytotoxic, but they could not characterize the economic impact easily. It would certainly modify research in the future. More research needed to be done.

Quinn asked Miller whether he could answer how much ozone in the Southeast was natural versus manmade.

Miller said he was fully confident that the red and yellow areas showed levels significantly higher than background.

Trotter asked whether Miller had run across any species with a yield increase.

Miller said not consistently. There was usually a no-response area. Sometimes a species appeared to show a slight increase, which might be caused by a stomatal response.

Trotter said that the results of decreased levels of SO<sub>2</sub> showed that now they had sulfur-deficient crops and fields. He asked whether the same thing would happen with ozone.

Miller said probably not. Ozone was not used by the plants in any form that they had yet identified.

Barker asked whether it was possible that some crops would adapt genetically.

Miller said that there was genetic variability. Unfortunately, it did not seem to correlate with high yields. The research had not identified one group of genes. They might be able to capitalize on this in the future.

Hambleton requested that they ask Dave Grantz for input from the public.

Margheim said yes to that request.

Grantz said he would help answer questions where he could.

Wakelyn asked what ozone effects were seen in forests.

Miller said that studies had been done, but were longer term. It also depended on the age of the plant.

Breeze asked whether Miller felt that the ozone monitoring network should be expanded to rural areas.

Miller said he felt that they had enough monitors to say that crops were affected. He asked if Shaver could talk about the expansion of the number of monitors.

Shaver said there was a reexamination underway.

Sweeten asked Miller whether he had looked at weeds and brush that were undesirable.

Miller said there had been studies on weeds and herbaceous species and brush.

Veenhuizen asked where they currently stood on the research base.

Miller said that agronomic crops had probably been the largest base studied. They still did not know about year-to-year changes. They did not know how disease and pests were affected by ozone. The genetic variations needed to be studied, but they might not be too great. They needed more confidence in the rural monitoring areas. They needed more complete modeling efforts on productivity and economics.

Quinn noted that the first map had counties and asked whether they had been extrapolated.

Miller said yes, when data were not available.

Quinn said that meant data were not collected in every county.

Wakelyn asked what the total funding was in this area.

Miller said only two groups were studying this question; there were five or six researchers in Raleigh and \$1.2 million had been spent. The USDA's Beltsville group only looked at air quality to a limited extent, but he did not know their budget.

Margheim said that NRCS had no money going into this research.

Miller said that most Forest Service money had been changed to global climate.

Parnell asked how the monitoring network was going to change.

Shaver said EPA was not proposing a change to the monitoring standard for ozone. There would be a subsequent proposal. EPA was trying to figure out how to place a monitor without worrying about it triggering a violation. They had a plan for the PM, and hoped to find out more about how to establish one for ozone in the near future.



Margheim said they would take a break and then listen to George Bluhm talk about how the Task Force's findings would be taken to the Secretary and Congress. They also would address the research agenda for the future.

Reeder said that they might want to revisit Shaver's comments about monitors that did not trigger violations.

**\*\*\*\*\*BREAK\*\*\*\*\***

Margheim asked Bluhm to please explain the process by which comments went to the Secretary and others.

Bluhm said he would explain the process of FACA. AAQTF subcommittee actions must first be accepted by the committee. Paul Johnson as the Chair would provide a cover letter and send the documents to the Secretary of Agriculture. Because the FACA was established by law, the Secretary must supply a copy to the chairs of the Senate and House Agriculture Committees, the White House, and the Library of Congress. It was a simple process.

Barker asked what the time frame was.

Bluhm said that last time the document was generated on Friday. It arrived on Monday at the Secretary of Agriculture's office. The Secretary usually was allowed 24 hours to form a response, but documents were automatically forwarded to Congress and the White House.

Graham noted that everything here was technically public information.

Margheim asked where they wanted to spend their time.

Hambleton said he was not sure if they could postpone some of these issues. He supported spending a few minutes on the research agenda and a good amount of time on the MOU. He would like to talk about how many meetings they planned to have.

Sweeten said that they could cut each of the scheduled presentations short from thirty minutes. Presenters could hand out information. He expected that there would be different interests. The Air Quality Presidential Initiative might take only be two to five minutes.

Cunha said lunch was when the MOU should be discussed and they should be ready to re-convene at 1:00 PM. He agreed with cutting the length of the presentations down. However, Cunha did not want to eliminate presentations because people had brought some of the things they had prepared a long way, and he thought that they owed those Task Force members a chance to make their presentations. He appreciated the courtesy of cutting them down. He thought they should go with that and just move along briskly.

Parnell said he did not mind being put off instead of being cut short. They needed to discuss MOU.

Quinn said that they needed to move up the presentations.

Breeze said she would yield her presentation during the 1:00 to 1:30 time until after the NAAQS were promulgated.

Margheim asked whether there was a consensus that they needed to talk about the MOU first.

Tristao said that the MOU and list of research initiatives should be done first.

Reeder said that the Task Force had two roles: self education and a symbolic role to deal with priority issues. They should put that first.

Tristao said he had a handout that he would pass out instead of discussing it.

Margheim proposed discussing the MOU, research agenda, and long-term meeting agenda.

Shaver said she needed three minutes. She wanted to advise the Task Force that EPA had been pressured to release maps of PM nonattainment areas. Assumptions had to be made based on ratio information. She wanted to make them aware that EPA would release these maps next week. Shaver said that Robin Dunkins and she would like to send the maps to Task Force members directly. She asked that they please explain to their people that these maps would not be used for designations. Three years of data would be required before designations were made.

Reeder asked whether these maps would state on their faces that they were preliminary.

Shaver said there would be such language, but people would not read it beforehand.

Quinn said he hoped it will show up in the title.

Shaver said it would.

Wakelyn asked why EPA was releasing them at all.

Shaver said it was part of Freedom of Information policy and also a response to pressure from outside groups.

Breeze said the maps helped with advanced planning.

Cunha said he was concerned that they were going to have another major blowout. The fear of what the maps implied would cause a major disruption. It must be clear that EPA would not be using those maps for designations.

Breeze said that Colorado was going to be proactive. They wanted to avoid the stigma of waiting to do something until later on.

Barker said some PM-fine data were available and wondered if there were data available to designate.

Shaver said that there were no FRM monitors out there yet.

Barker asked whether there were any areas to designate.

Shaver said that they had found enough variance in ratioing to show that this method could not be used to designate.

Barker asked whether they could have the maps sent to them directly instead of just to Bluhm.

Sweeten asked whether they could get acronyms defined.

Margheim said to send the maps to Bluhm for filing and also to individual members.

Wakelyn said that EPA should add that the PM-2.5/PM-10 ratio varied from 10 to 80 percent, but 60 percent was used.

Shaver said she did not know about that, but could make a recommendation.

Reeder wanted to stress that point because he thought one of the real hazards if EPA released those maps at this point was that it reduced the credibility of EPA's next release. So if EPA could do something like acknowledge that there was a wide range of variability in this effort and what Shaver had said about ratioing, he thought EPA could protect the credibility of whatever followed.

Parnell asked which ratio used in their area would be included.

Shaver said she did not think it was a national percentage that was used.

Baise said that to put things into context, first, assuming that promulgation happened on July 18, the States had only three years to develop their SIPs. Second, the guidance should be there for the States. Third, a State must revise its SIP if the review was not favorable immediately. Therefore, they must look at time lines for the research. Equipment manufacturers were already working on making reductions. OTAG would be making recommendations for 37 States to reduce agricultural engine emissions by many tons.

Shaver said that OTAG was made up of commissioners.

Baise said that OTAG was recommending California standards. In other words, timing was everything. One had only about a year to make changes.

Shaver said that in terms of due dates, the 110 SIP was a much more general SIP that asked whether States could meet the standards. It looked at the available resources.

Baise said this asked the question of whether a State could meet the standards. If not, the FIP kicked in. States must start their planning. The cow pie that Task Force members saw yesterday on the field trip would need to be covered. There was an article in Science saying that many rural areas would be nonattainment. Baise said he would give Bluhm copies of this article to pass out.

Reeder asked whether they had a way to coordinate with OTAG.

Shaver said that OTAG would end that week although its legacy might continue.

Wakelyn asked how PM and ozone would be addressed by 110 SIPs.

Shaver said that most States had a sufficient 110 SIP for ozone. The PM SIP might or might not have to be revised. Most States would have to look at their SIP and address the question of resources.

Margheim asked whether there were any last questions.

Bluhm said he would distribute a packet of documents during lunch.

**\*\*\*\*\*LUNCH\*\*\*\*\***

Cunha said that Bluhm should serve as the secretary of the MOU group. They had a draft form. Appendices could be added.

Bluhm asked for time to put together comments. He said Dunkins and he would put together the comments in the next half hour.

Margheim told Bluhm and Dunkins to go ahead.

***Discussion of Research Priorities***

Gary Margheim suggested they talk about the research agenda. It was important to keep to the high moral ground. He wanted them to stand back and forget about who was doing research and how much money they were getting. Margheim opened up the floor for discussion.

Quinn said he would start because he did not do research. One thing that showed up right away was the question of which components of PM-2.5 related to agriculture. The speciation needed to be done to help them answer this question. It was important in his region.

Tristao said that research had been done in the San Joaquin Valley and California, but each region would have different needs. USDA did identify issues for research, but they showed a Western bias. He did not want to re-address this issue since it was in the minutes from the last meeting.

Saxton said that this topic area had been talked about numerous times in research communities. He asked what they were being asked to give to the Secretary. If it was science needs and the current amount of funding available, the Agricultural Research Service was doing this now, and ARS had listed air quality as one of its 25 concerns in

the future. Maybe they needed a small group of Task Force members to put this together.

Cunha said that the PM-10 problem was first mentioned in 1993. If they went into NRCS, they needed to look at funding mechanisms for farmers in local areas. There were seven serious nonattainment PM-10 agricultural areas; farmers needed funding to help NRCS do some planning in these areas. In the research arena, NRCS needed funding to set up voluntary plans and programs in nonattainment areas. This issue must be addressed after research was done. NRCS's needs must be recognized in terms of funding.

Reeder asked whether they could break down some of these issues.

Margheim said yes.

Hambleton, handing out papers, said for Task Force members to take this plan with them to read about what they came up with.

Cunha said he thought there was about \$1 million available for research.

Saxton said that ARS was assembling that information. If one included mechanisms of funding for other areas such as wind erosion, field operations, and animal operations, it might be close to \$3 million.

Cunha mentioned agricultural burning, forest fire management burning, animal production, testing equipment, and plant scrubbing.

Quinn said that a regional source category must be in there.

Sweeten said he thought that animal issues needed to be divided between PM and odor.

Barker asked how they were going to tell which particulates were affecting health. It still had not been shown that adverse health effects were caused by agriculture.

Sweeten suggested that maybe they should focus on health, nuisance odor, haze, and animal health. Maybe they needed to prioritize. In essence, they would create a matrix that would help the Task Force prioritize.

Cunha said that in California they had regulations based on old research. EPA had to use these numbers, but that they had to clean up the bad science in California with new research.

Tristao said that regulatory-driven research was not their priority. The standards would be set and nonattainment areas would be established. It would be up to the agriculture industry to address the costs. They needed research to demonstrate to farmers that it was necessary and helpful to them to incur these costs.

Parnell said he disagreed with Barker. Equitable regulation was the goal. EPA corrected the emission factors to ensure that one was not over-regulated. If an area could never achieve the NAAQS, it must establish a plan without health issues being the driving factor.

Ferguson said that the Task Force should look at assessing the effects of health-based standards on the agriculture industry. Individual regions should be looking at their issues.

Reeder said that the Task Force should focus on gathering credible data to support emissions estimates. He did not want to get bogged down in the same old issues again. They were not out to solve the problem of smokers and relative risk that Ferguson had raised on Tuesday.

Parnell said the focus of the Task Force's program should not be on health because EPA already had set the NAAQS. They should have a primary focus of looking at their numbers. The health questions might not have an immediate effect.

Barker said he was more concerned about the agriculture complex. There were too many entities telling them how to meet the standards. Bad public policy was not a basis to plan the future. The Engine Manufacturers Association letter stated that CARB was going beyond these issues. Barker did not see how the Task Force could help if it did not answer the bigger questions.

John Sweeten said that industry and the Air and Waste Management Association were addressing the question of diesel engines. He did not see this as necessarily one of the Task Force's priorities. He thought they could make more progress on appropriate agricultural methods.

Reeder said he thought they should add exhaust emissions to their list.

Margheim said they might want to address the funding of research and its legislation in the next five years.

Cunha said he had had discussions with Bob Smith, chairman of the House Agriculture Committee. Bob Smith suggested that now was the time. He would like to add that Congressman Dooley chaired a research committee and that they would make a recommendation of \$350 million to USDA. Cunha supported the idea that the Task Force should make some good recommendations about how to spend research money. They should not ignore PM-10, no matter what decision was made on July 18.

Saxton said he would caution that a two-page paper with six bullets was very effective last time. He suggested that they repeat that approach.

Cunha concurred.

Veenhuizen said that as he looked at the challenge, it would be incorrect to focus on one issue. They needed to draft a list of research categories for current and future concerns. Odor was a critical local issue but was not addressed by EPA. They needed to encourage and recommend that they identify key research issues. He asked how they were to address the concerns of the whole Task Force and nation. He wanted to move forward to organize their thinking into six bullets.

Tristao said he saw research into nonattainment areas as one bullet and research in odor control as another. He could not make recommendations right now. They could not address this all now.

Parnell asked whether they could go back to brainstorming.

Trotter expressed interest in three areas: economic research to meet compliance; corroboration of some of the data; and PM-2.5 health effects research.

Miller said that ozone was mentioned and should remain a priority. It was clearly an area of need. Research on the environmental impacts of ozone stress also was necessary.

Barker asked whether they had a report on the issues.

Cunha said that Flocchini had compiled papers.

Wakelyn said that Flocchini was working on a review paper.

Hambleton asked whether they could tell if particulates were volcanic, etc.

Ferguson said they could not tell right now, and there was a very long way to go.



Saxton said that in the Washington area, everyone tried to say their particulates were not bad. Regulatory people had to approach everything evenly.

Trotter said it looked like they had to regulate problems that might not exist.

Tristao noted that Flocchini had said they must address PM-10. They did not have the money to say which constituent was the most harmful. As far as PM-10 went, they must speciate within it, but the funding to conduct speciation was not there.

Quinn said that they must look again at regional differentiation.

Chavez said that EPA's wheels were turning, and they should review EPA research. They should initiate their own efforts if they did not agree with the EPA methods.

Barker asked whether there was there funding in EPA to cover joint research projects under the MOU.

Shaver said that EPA did have research underway and they were looking at speciation for health effects. They also wanted to do more research on emission factors. Shaver thought the issue of productivity for the agriculture industry might fall to the bottom of the list.

Reeder said he did not think that anything would stop EPA right now because it took the approach that regulation drove controls. He suggested six bullets.

### **Research Priorities**

Clinton Reeder

1. Characterize particulates and materials.
2. Characterize alternative practices and their effect on agriculture production system.
3. Investigate the relationships between air quality factors and biological consequences.
4. Improve the reliability of research methods.
5. Evaluation of economic and social consequences of alternative practices and implementation strategies.
6. Identify and assess alternative means of financing the above.

Saxton said he thought four of the six items on his list were the same as Reeder's list.

### **Research Priorities**

Keith Saxton

1. Particulate matter
2. Agricultural smoke emissions
3. Agricultural odors
4. Ozone impacts
5. Engine emissions
6. Measurement and methods

Parnell said his concern was air pollution control strategies. As they moved into regulating PM-2.5, they did not have control strategies. They should have tried to change the emission factors. Dispersion modeling was a problem at Texas A&M since the ISC model over-predicted by four or five times. The contribution of soil to PM-2.5 was mostly from crust, but the basis for stating this was not there yet. They needed to address FRM sampling methodology and its accuracy.

**Research Priorities**

Calvin Parnell

1. Air pollution control strategies for compliance
2. Emission factors
3. Dispersion modeling
4. Contribution of soil to PM-2.5
5. Sampling methodology -- accuracy

Sweeten said he would offer this document as comprehensive for growers in this Valley and maybe further. There was a long list from the San Joaquin Valley APCD and it went further in more detail.

Margheim asked whether it would be appropriate for a small subgroup of four or five to work on a list of priorities. He thought it should be another short letter.

Nominations were accepted for this group: Miller, Saxton, Parnell, Veenhuizen, Trotter, Tristao, and Wakelyn.

Margheim asked whether the Task Force could get a draft from this group in the next week.

Cunha nominated Trotter to lead the effort.

Margheim said there were no objections.

Tristao said he would like to work on some of the items that day.

Reeder said those members who were staying overnight could work on it some and get their ideas to Tristao.

Graham compiled all of the ideas for research priorities mentioned by the committee into a single list.

### **Research Priorities**

Summary of Ideas (not in a specific order)

Wind erosion  
 Field operations  
 Agricultural burning  
 Animal production, including particulates and odor  
 Ozone  
 Methodology  
 Testing equipment  
 Plant scrubbing  
 Regional sources  
 Exhaust emissions

### ***Discussion of the Revised MOU***

Margheim turned over the floor to Bluhm.

Bluhm presented the revised MOU draft for review. The major proposed changes were:

1. Set up first paragraph to be between USDA, EPA, and its offices.
2. Establish a cooperative relationship. This required mostly word changes but they had tried to add references to USDA instead of NRCS. In general, they wanted to state that they tried to follow the law.
3. Under the section on EPA's effort, they made word changes for clarification. They specifically mentioned communication with researchers. They stayed with conservation districts to provide leadership; however, USDA would encourage looking more broadly at sources.

Reeder said that in the Northwest, the New Goals statement could be changed to "other environmental protectors".

Barker suggested a change to the word "regulators" instead.

Margheim asked whether "regulators" was okay.

Tristao said no, farmers were stewards of the land.

Margheim asked whether they could say "EPA".

Tristao said okay.

Parnell suggested involving regulators and USDA as well.

Cunha said that this was not with the States, it was with EPA.

Parnell said he stood corrected.

Cunha said "USDA and EPA" was how it should read.

Tristao said he thought it should be under agriculture agencies, which included this Task Force.

Reeder said he thought the original language was appropriate. He thought the goal of the MOU was to bring agricultural interests together with the environmental regulatory community. "Agricultural and regulatory communities" should be the language.

Bluhm asked whether there were more comments.

Barker said he thought they were going straight to the goal.

Tristao said they never reached consensus.

Sweeten moved to accept the first page.

There was a motion to accept the first page, and it was seconded. There was no further discussion. The Task Force voted to adopt the motion.

Tristao asked whether they should say "agriculture experts," which was followed by some discussion about adding agricultural words.

There was a motion to accept the second page as modified. It was seconded and adopted.

Bluhm asked about the third page.

After a discussion, there was a motion to accept the third page. It was seconded and adopted.

Margheim suggested that they run this version of the MOU through the general counsels. He asked that Dunkins please type it up by the next Wednesday. He also wanted to run it by the Task Force in full form after sending it to the Offices of General Counsel.

Reeder moved for an adoption in principle. The motion was seconded and adopted.

All motions were adopted unanimously

Hambleton said that there were copies of the San Joaquin Valley APCD PM-10 Attainment Demonstration Plan for interested parties.

Bluhm said he would e-mail or FAX copies of the MOU to members.

Graham explained tax and reimbursement forms as he handed them out.

Bluhm said not to claim any M&IE for the previous day.

Hambleton said that two people whose efforts should be recognized were Bluhm and Graham.

\*\*\*\*\***BREAK**\*\*\*\*\*

Margheim said that before they discussed any more items, he wanted to allow the public to speak.

Oey wanted to correct her statement from Tuesday. There were seven dicot monitors operating on a 6-day basis in the San Joaquin Valley.

### ***Discussion of Potential Meetings Sites and Dates***

Margheim said they needed to set up the next meetings.

Saxton wanted to invite the Task Force to Spokane. He said they could address people who dealt with wind erosion, wood smoke, and prescribed burning by the Forest Service. There were health studies going on. These were some of the highlights they could learn about. He suggested October or April.

Parnell said Sweeten would suggest next summer in Texas. They could demonstrate some things. He said Sweeten would try to match the previous day's tour.

Cunha said Texas would be a great place to go.

Parnell noted that they grew cattle, cotton, vegetables, etc.

Margheim suggested that they center on a theme for each trip.

Parnell said they might get some agricultural engineers at the meeting.

Margheim asked how late a meeting could be held in Spokane.

Saxton said they lived there year round, so any time would work.

Cunha suggested Research Triangle Park in the fall.

Margheim said maybe the next meeting could be held in Washington, DC. It could be coordinated with the MOU signing.

Tristao said that the MOU was necessary.

Reeder said that would be a huge press effort.

Margheim said the meeting had to take place in the next fiscal year because of funding constraints.

Margheim asked Bluhm to please set up possible dates: one in Washington, DC, in October or November; Spokane in April; and Amarillo, Texas, in the summer.

Graham was concerned about number of meetings, saying that the money was not there.

Reeder said that they could try to influence funding in Congress if they felt it was important.

Margheim said that they had been limited by the USDA cap on funding. He also stated they would set up briefing minutes for NRCS Chief Paul Johnson in the next week.

Wakelyn said he thought they needed to send something to Secretary Glickman. The new farm bill should be looking at air quality issues.

Margheim asked whether some people wanted to take a stab at such a letter.

Barker said that they raised the issue of research priorities in the last letter. He wanted to reiterate that.

Cunha said he thought that now they could mention the last letter and say they would like him to consider the following points. This was ground-breaking (referring to the MOU), and they should address the research agenda.

Barker said he saw no conflict in presenting this letter as a follow up.

Trotter said he would like the subcommittee on establishing a research agenda to get together at the end of the meeting since he would not be there that evening.

Margheim asked who would write the letter.

Cunha said they would do it at the end of the meeting.

Bluhm said that Bob Odom of the Commissioner for Forestry and Agriculture from Louisiana was concerned about agricultural burning. He was willing to bring together a subcommittee of professors from Louisiana State University, Texas, and other schools. Their efforts would produce suggested policy on agricultural burning or prescribed burning on agricultural, range, or forest land. It was at their expense, and he was willing to do the work.

Cunha said he supported this idea.

Reeder said they needed this technical information.

Tristao said it was also important out West.

Barker asked how they formed such a group under the FACA rule.

Margheim said that Paul Johnson would write a letter to the individual saying that he or she could provide education to the Task Force.

A motion was made and seconded.

Reeder asked whether this group would show both the pros and cons.

Veenhuizen asked how it differed from Flocchini's work.



Bluhm said the only difference was that Flocchini was with the Task Force from beginning.

Cunha said that Flocchini was bringing the review paper together for them and would be getting this information as well. He considered Flocchini to be the one bringing everything together.

The motion was accepted unanimously.

Margheim asked how much additional staff support they needed to fulfill their requirements for this work.

Bluhm said that if they wanted to work as subgroups, NRCS might be able to provide specific personnel and support.

Barker said that work groups were starting to form and wondered whether it was possible to pull more people into the process.

Margheim said he believed that idea was great.

Parnell said there might be an opportunity for subgroups to work on individual issues. Perhaps subgroups could be more organized.

Margheim said he thought they might be going this way.

Parnell said he appreciated Flocchini's work.

Margheim said Flocchini had added a lot nationwide. He asked whether there was consensus that they move toward subgroups.

Barker said that they might circulate a list to see who was interested in working on which subgroups. That would be useful.

Bluhm said that as long as the subgroups came back to the Task Force and provided public presentations, they would be in compliance with the intent of the FACA law.

Parnell said they had a committee on environmental air quality (SE 365) in the American Society of Agricultural Engineers that could add a lot to this meeting.

Trotter asked how the mechanics of these subgroups would go.

Margheim said that it would be difficult to break out during larger meetings, so he saw these subgroups working between Task Force meetings.

Cunha said they were going to rely on more groups and fact finding. It would be required between the big meetings.

Reeder said they could stretch face-to-face meetings to the night before Task Force meetings.

Wakelyn asked whether they could get all of the current USDA listings and CRIS summaries.

Hambleton said it should be able to be done without much difficulty.

Wakelyn said that they should be able to call this up on the computer for just air quality.

Hambleton said first develop a matrix showing current research and second a matrix with proposed research. The third matrix would show additional possible research areas. The first two should have been possible.

Margheim said it sounded like a reasonable request.

Wakelyn said that they should be able to get this done.

Margheim said he could make calls to get this done.

Veenhuizen said he would like to get a list of addresses from all of the growers from the previous day's tour to thank them.

Margheim thanked the organizers once again for the tour.

Bluhm said that they had an Agricultural Research Service specialist named Jeff Smith who understood nitrogen oxide exposure and offered to present a discussion of the latest summary of U.S. agricultural data. He was a soil physicist who wanted to talk to Joseph Miller before the next meeting.

Wakelyn said they could not make recommendations if they did not know what the USDA was doing.

Bluhm said that the global change issue would be coming up. He did not want to wait until the next meeting to pass this information on to other members.

Margheim said that if they could get materials in advance, they could save time.

Barker said it would be useful to have someone from the Forest Service in the audience.

Hambleton said that prescribed burning was a real issue that they must address.

Cunha said please send a thank you letter to Felicia Marcus. He offered a thank you to Dunkins.

Margheim thanked everyone and noted that they had accomplished a lot here. He said he would like to adjourn the meeting.

The meeting was adjourned at 4:15 PM under the FACA rule.

**ATTACHMENTS**

**LIST OF ACRONYMS**

**MEETING AGENDA**

**SAN JOAQUIN VALLEY AGRICULTURAL TOUR AGENDA**

**PRESENTATION HANDOUTS**